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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,829	08/01/2001	Masahiro Uekawa	2001-1018A	4417

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EXAMINER

DUVERNE, JEAN F

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/918,829

Applicant(s)
UEKAWA ETAL

Examiner
Jean Duverne

Art Unit
2839



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 28, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-32 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-26, 28, 29, 31, and 32 is/are rejected.
- 7) ☒ Claim(s) 27 and 30 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

1. In view of applicant's amendment/argument, the examiner has decided to issue a second non-final office action by using new art in the rejection.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17, 19-24, 26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332).

Pimpinella's device discloses an optical device an optical device (figs. 1-2) including optical substrate (11), a lens element (20) formed on the substrate, a supporting substrate or coupler (22) having grooved surface with groove (24, or 27, 28) formed therein, wherein the optical substrate having projecting part at 31, 32 resting into the groove (27, 28) formed on the supporting substrate as to align the lens element with the optical element, the projecting part extending perpendicularly from the surface and having a circular cross section, the groove with the v-shape extending to side (fig. 1). However, Pimpinella's device fails to place the projection part into the groove surface, a third groove comprising an optical fiber. It would have been obvious to one having ordinary skill in the art at the time the invention was made place groove to receive the projecting part at the projection surface instead of the groove surface to align the lens

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element, since it has been held that rearranging of parts of an invention involves only routine skill in the art. In re Japike, 86 USPQ 8.

3. Claims 18, 25, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629).

In regard to claim 18, Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the use of the photolithography. Tabuchi's device discloses the substrate with the grooves and fiber using the photolithography (see col. 4). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the photolithography features such as the one taught in Tabuchi's structure for improving the projection features in Pimpinella's device.

In regard to claims 25,31, Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the etching process with anisotropic etchant using silicon or other similar material commonly used, and the silicon substrate formed in a one piece unit. Tabuchi's device discloses the etching process with anisotropic etchant using silicon (see col. 4). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the etching process with anisotropic etchant such as the one taught in Tabuchi's structure to meet system design and requirement.

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Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629) as applied to claims 18, 25, 31 above, and further in view of Ham (US patent US005543255A) .

Pimpinella's and Tabuchi's structures disclose the aforementioned, but fails to explicitly disclose the use of the quartz substrate. Ham's device disclose the use of the quartz substrate (11). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the quartz substrate such as the one taught in Ham's structure to meet system design and requirement.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629) as applied to claims 18, 25, 31 above, and further in view of Matsumura et al (US patent 5,625,493).

Pimpinella's and Tabuchi's structures disclose the aforementioned, but fails to explicitly disclose the use of the lens comprising hologram. Matsumura's device discloses the use of the lens comprising hologram. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the lens comprising hologram such as the one disclose in Matsumura's system for improving the diffracting system in Pimpinella's device.

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Conclusion

Allowable Subject Matter

4. Claims 27 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art fails to disclose the formation of the optical device by coating the polymer substrate with photosensitive resin layer to light through the exposure mask to cure the exposed portion of the resin layer and remove uncured portion of the resin layer to form the groove with the rest of the claims limitations.

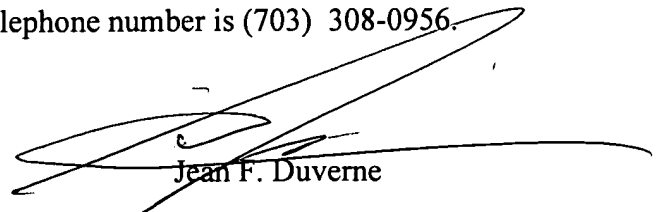
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Duverne whose telephone number is (703) 305 - 0297 . The examiner can normally be reached from 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild, can be reached on (703)308-2710. The fax phone number for this Group is (703) 308 - 7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

JFD

June 16, 2003



Jean F. Duverne

Patent Examiner, Art Unit 2839